

CLAIMS

- 1 1. Data decompression apparatus for decompressing an input stream of codes to recover an output stream of data characters corresponding thereto, a code corresponding to a string of data characters, comprising
 - 5 code decoder means including a plurality of code decoder outputs corresponding to a respective plurality of codes to be assigned to strings,
said code decoder means responsive to an input code for selectively energizing a code decoder output
 - 10 in accordance with said input code,
a plurality of logic elements corresponding to said respective plurality of codes, a logic element having an input and an output, the inputs of said logic elements being coupled to respective code decoder outputs,
 - 15 character storage means responsive to the code decoder outputs and having a plurality of storage locations for storing respective data characters, a storage location being accessed by a code decoder output to provide the data character stored therein, and
 - 20 coupling means for selectively coupling outputs of said logic elements to inputs thereof so that the data characters of the string corresponding to said input code are provided by said character storage means,
thereby providing said output stream of data
 - 25 characters.
2. The apparatus of claim 1 wherein said coupling means comprises means for selectively coupling outputs of said logic elements to inputs thereof so that
 - 30 energization of the code decoder output corresponding to said input code propagates through sequentially coupled logic elements to access storage locations of said character storage means to provide the data characters of the string corresponding to said input code.

1 3. The apparatus of claim 1 further including means
for recording an extended string and assigning a code
thereto, comprising

means for storing the first character of the
5 string corresponding to said input code in the storage
location of said character storage means accessible by
the code decoder output corresponding to a next code
to be assigned to a string,

10 said coupling means being operative for coupling
the output of the logic element corresponding to said
next code to the input of the logic element corresponding
to the code received previously to said input code,
so as to record in said data decompression
apparatus the extended string comprising the string
15 corresponding to the previously received code extended
by said first character and to assign said next code
thereto.

20 4. The apparatus of claim 1 further including means
for processing a currently fetched code to which a
recorded string has not been assigned, comprising

means for storing the first character of the
string corresponding to the code received previously
to said currently fetched code in the storage location
25 of said character storage means accessible by the code
decoder output corresponding to a next code to be assigned
to a string,

30 said coupling means being operative for coupling
the output of the logic element corresponding to said
next code to the input of the logic element corresponding
to the previously received code,

35 so as to record in said data decompression
apparatus an extended string corresponding to said
currently fetched code and to output the characters
thereof.

1 5. The apparatus of claim 4 wherein said means for
processing said currently fetched code is operative to
record the extended string comprising the string
corresponding to the previously received code extended
5 by said first character and to assign said next code
thereto.

6. The apparatus of claim 1 wherein said coupling
means comprises means for selectively coupling outputs
10 of said logic elements to code decoder outputs.

7. The apparatus of claim 6 further including means
for recording an extended string and assigning a code
thereto, comprising

15 means for storing the first character of the
string corresponding to said input code in the storage
location of said character storage means accessible by
the code decoder output corresponding to a next code
to be assigned to a string,

20 said coupling means being operative for coupling
the output of the logic element corresponding to said
next code to the code decoder output corresponding to
the code received previously to said input code,
so as to record in said data decompression

25 apparatus the extended string comprising the string
corresponding to the previously received code extended
by said first character and to assign said next code
thereto.

- 1 8. The apparatus of claim 6 further including means for processing a currently fetched code to which a recorded string has not been assigned, comprising means for storing the first character of the
- 5 string corresponding to the code received previously to said currently fetched code in the storage location of said character storage means accessible by the code decoder output corresponding to a next code to be assigned to a string,
- 10 said coupling means being operative for coupling the output of the logic element corresponding to said next code to the code decoder output corresponding to the previously received code, so as to record in said data decompression
- 15 apparatus an extended string corresponding to said currently fetched code and to output the characters thereof.
9. The apparatus of claim 6 wherein
- 20 said data characters are from an alphabet of data characters, and said plurality of code decoder outputs includes further code decoder outputs corresponding to the respective data characters of said alphabet.
- 25 10. The apparatus of claim 9 wherein said coupling means is operative to couple the output of a logic element to one of said further code decoder outputs to record a string with a root character corresponding to said one of said further code decoder outputs.
- 30 11. The apparatus of claim 9 wherein said character storage means includes initialized locations accessible by said further code decoder outputs and storing said data characters of said alphabet, respectively.

1 12. The apparatus of claim 1 further including means
for assigning a level to a data character of a string,
the level assigned to the last character of the string
denoting the number of data characters comprising the
5 string.

13. The apparatus of claim 12 wherein an extended
string is comprised of a prefix string of at least one
data character followed by an extension character,
10 said assigning means being operative to assign
a level to said extension character that is one greater
than the level assigned to the last character of said
prefix string.

15 14. The apparatus of claim 1 wherein said plurality
of logic elements comprises a plurality of OR-gates.

15. The apparatus of claim 14 wherein said plurality
of OR-gates comprises a plurality of single input
20 OR-gates.

16. The apparatus of claim 1 wherein said plurality
of logic elements comprises a matrix of logic elements.

25 17. The apparatus of claim 6 wherein said coupling
means comprises a matrix switch.

18. The apparatus of claim 17 wherein said matrix
switch comprises a plurality of controllable switches
30 for selectively coupling the outputs of said plurality
of logic elements to said code decoder outputs, a
controllable switch coupling the output of a logic element
corresponding to a particular code to a code decoder
output corresponding to a code less than said particular
35 code.